

3. Calls may be forwarded to any telephone number, including DID numbers, served by the same or a different central office.
4. Subscribers may have CFBL with Call Forwarding Don't Answer (CFDA), Call Forwarding Variable (CFV), and Call Waiting (CW). If a station has CFV and CFBL or CFDA active, then CFV will override the CFBL and/or CFDA features. If a station has CW and CFBL, CW will normally take precedence over the CFBL feature. However, if the station is made busy by a make-busy key arrangement, CW is not invoked and the CFBL feature takes precedence.
5. References:
  - SR-504 SPCS Capabilities and Features (A Module of LSSGR, FR-64), Issue 1, March 1996 (formerly TR-NWT-000504).
  - GR-568 LSSGR: Series Completion, FSD 01-02-0801 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-TSY-000568 Issue 1 – no technical changes).
  - GR-586 LSSGR: Call Forwarding Subfeatures, FSD 01-02-1450 (A Module of LSSGR, FR-64), Issue 2, April 2002 (replaces TR-TSY-000586 Issue 1 & GR-586 Issue 1).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Call Forwarding - Busy Line or Don't Answer - Customer Control of Activation/Deactivation (1048)

This capability provides ESP's clients with the ability to activate the Call Forwarding Busy Line and Call Forwarding Don't Answer features by dialing an access code in the form of \*XX. The ESP's client will be able to deactivate the Call Forwarding Busy Line and Call Forwarding Don't Answer features by dialing another access code, also in the form of \*XX.

Limitations may apply, depending on the type of switching systems serving the client.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding - Busy Line or Don't Answer - Customer Control of Activation/Deactivation	AM - Customer Control of Busy Line Transfer or Alternate Answering	CNS
	BS - Customer Control of CF BL/DA	CNS
	NX - Ultraforward	CNS
	PB - Call Forwarding Busy Line/Don't Answer- Fixed	CNS
	Qwest - Call Forwarding BL, Customer Programmable	CNS
	Qwest - Call Forwarding DA, Customer Programmable	CNS

#### FEATURE OPERATION:

Customer control of Call Forwarding Busy Line/Don't Answer is a central office software capability that allows a subscriber to activate and deactivate Call Forwarding Busy Line (CFBL) and/or Call Forwarding Don't Answer (CFDA). Activation of these services allows the customer to have an incoming call redirected to a telephone number preset at the time the service was established by service order. The service is activated/deactivated by the subscriber dialing the assigned access code. Access codes are in the same format as those for Call Forwarding Variable (\*XX). CFDA and CFBL may have different activation/deactivation codes. The party activating these services does not have to be in the same central office switch as the forwarded telephone number.

Also see the service called "Call Forwarding - Busy Line or Don't Answer - Customer Control of Forward-To Number."

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10.09*	5E2(2)	BCS27

\* References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

2. Multiline customers can have CFBL/DA - Customer Control on each line if desired.

### 3. References:

- GR-586 LSSGR: Call Forwarding Subfeatures, FSD 01-02-1450 (A Module of LSSGR, FR-64), Issue 2, April 2002 (replaces TR-TSY-000586 Issue 1 & GR-586 Issue 1).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Call Forwarding - Busy Line or Don't Answer - Customer Control of Forward-To Number (1049)

This capability provides the ESP's client with the ability to change the Forward-To number for Call Forwarding Busy Line by dialing an access code in the form of \*XX, and to change the Forward-To number for Call Forwarding Don't Answer by dialing another access code, also in the form of \*XX. Limitations may apply, depending on the type of switching system serving the client.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding - Busy Line or Don't Answer - Customer Control of Forward-To Number	AM - Customer Control of Busy Line Transfer or Alternate Answering	CNS
	PB - Call Forwarding Busy Line/Don't Answer Programmable	CNS
	Qwest - Call Forwarding BL, Customer Programmable	CNS
	Qwest - Call Forwarding DA, Customer Programmable	CNS

#### FEATURE OPERATION:

This feature can be controlled (activated or deactivated) by the customer in two ways.

1. The customer dials an activation code and the remote DN or the deactivation code (i.e., Ameritech, Pacific Bell and Qwest). The codes are in the same format as Call Forwarding Variable (\*XX).

Customer control of Call Forwarding Busy Line/Don't Answer is a central office software capability that allows a subscriber to have an incoming call redirected to another Directory Number (DN) if the number dialed (the subscriber's number) is in a busy condition or is not answered. The service is activated by the subscriber dialing an activation code, much in the same manner as Call Forwarding Variable, and entering the remote number that calls will be forwarded to. The called number and the redirected number do not have to be in the same switch. The service and forwarded-to number are deactivated by dialing the deactivation code.

2. The customer dials an access number (e.g., an 800 number or a regular NPA-NXX-XXXX number from any station (i.e., NYNEX). An announcement is returned asking for the customer directory number and a security code. If the dialed directory number and security code match and the customer subscribes to CFBL, a prompt to select the feature (e.g., CFBL/DA) and the specific action (e.g., activation or deactivation) is returned. After making his change the customer can wait for a confirmation or use, at any time, the verify capability to determine the feature status and the forward to number.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10.09*	5E2(2)	BCS27

\* References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

2. Multiline customers can have CFBL/DA - Customer Control on each line if desired.

3. The maximum number of digits that can be programmed are: 1A ESS - 16 digits

5ESS - 24 digits

DMS-100 - 24 digits

4. Subscribers may have CFBL with CFDA, Call Forwarding Variable (CFV), and Call Waiting (CW). If a station has CFV and CFBL or CFDA active, then CFV will override the CFBL and/or CFDA features. In the 1A ESS Call Waiting takes precedence and does not interact with CFBL. Un-answered Call Waiting calls do not revert to CFDA in either the 1A ESS or the 5ESS.

5. References:

- GR-586 LSSGR: Call Forwarding Subfeatures, FSD 01-02-1450 (A Module of LSSGR, FR-64), Issue 2, April 2002 (replaces TR-TSY-000586 Issue 1 & GR-586 Issue 1).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Call Forwarding Don't Answer After Call Waiting (CFDA After CW) (1093)

Call Forwarding Don't Answer After Call Waiting is a central office software capability that allows a client to utilize the Call Forwarding Don't Answer (CFDA) feature even though the client's line is also equipped with Call Waiting (CW).

CFDA/CW interaction was initially designed for CW to be dominant over CFDA. For a busy line equipped with both features (CFDA and CW), receiving an incoming call invoked the CW tone, but did not transfer to the CFDA forward-to number. This resulted in the CFDA feature being effective only when the line was not busy and not answered.

This capability improves the call waiting feature by allowing subscribers with the call waiting feature to specify the way an incoming call is to be treated when a call comes in while the subscriber is currently involved in a call with another party. When the call waiting tone is heard, the subscriber has the following options:

- initiate the standard call-waiting options (ignore, flash to put the existing call on hold and answer the second call, flash to go back to the first call, etc.)
- forward the call to another preselected directory number.

The busy and call forwarding options are selected by the subscriber pressing the appropriate key on a DTMF telephone set.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding Don't Answer After Call Waiting	AM - Alternate Answer After Call Waiting	CNS
	AM - Call Forwarding With Call Waiting	CNS
	BA - Fixed CF, CFDA	CNS*
	BS - Call Forwarding Don't Answer	CNS*
	NX - CFBL, CFDA, CFBL/DA	CNS*
	PB - Modification of Call Waiting	CNS
	Qwest - Call Waiting	CNS

#### FEATURE OPERATION:

The new feature interaction allows a client to subscribe to both CFDA and CW, and receive the benefits of both features. An incoming call to a busy line will invoke the CW tone. The client can place the existing call on hold and answer the call, or by not answering the call, can allow the CFDA feature to assume control of the new call and transfer it to the CFDA forward-to number.

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\* This capability is inherent with Call Forwarding Don't Answer in Switches which have been modified. Check wire center deployment report for availability.

# TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10.11	5E7	BCS32

2. This feature is activated on an office basis. The AT&T switches (1A ESS and 5ESS) have a line-by-line override parameter to accommodate any customer situations where the capability may not be desired.
3. In the DMS-100 switch, the feature only affects those CFDA and CW customers served by RES. There is no line-by-line override parameter in the DMS-100 switch.
4. The line specific CFDA features (number of rings, inter/intraoffice forwarding) will operate the same as though the line were on-hook and not answered.
5. Standard CFDA and CW operation applies.
6. References:
  - GR-571 LSSGR: Call Waiting, FSD-01-02-1201 (A Module of LSSGR, FR-64), Issue 1 – June 2000 (replaces TR-TSY-000571 Issue 1 & Revision 1 – no technical changes) [includes CFDA interaction]

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Call Forwarding - Don't Answer Intraswitch (1050)

Call Forwarding Don't Answer (CFDA) is a central office software capability that allows a client to have an incoming call redirected to another Directory Number (DN) if the number dialed (the client's number) is not answered after a user-specified number of rings (or time interval). The service is activated by a service order. The called number and the redirected number (forwarded-to number) are coded in the central office memory and can only be changed through a service order. The customer may specify the number of rings (or time interval) at the time of the service order. The customer has the option of answering the call prior to its being forwarded, as long as the call is answered within the ringing cycle (time interval) selected. The called number and the redirected number (forwarded-to number) must be in the same central office switch. The service is deactivated, the forwarded-to number changed, or the number of rings (time interval) is changed only by a service order.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding - Don't Answer Intraswitch	AM - Alternate Answering	CNS
	BA - Fixed CF, CFBL/DA	CNS
	BA - Fixed Call Forwarding	CNS
	BA - Call Forwarding Busy Line/Don't Answer	CNS
	BA - Fixed Call Forwarding Don't Answer	CNS
	BS - Call Forwarding Don't Answer	CNS
	NX - CFBL, CFDA, CFBL/DA	CNS
	PB - Call Forwarding Don't Answer	CNS
	SWB - Call Forwarding Don't Answer	CNS
	Qwest - Call Forwarding Don't Answer	CNS
	Qwest - Call Forwarding Busy Line/Don't Answer	CNS

#### FEATURE OPERATION:

This feature is activated/deactivated by a service order. The "forward-to" number and the number of rings (time interval) is also selected and preprogrammed at the time of the service order. (Refer to the capabilities called "Call Forwarding - Busy Line or Don't Answer - Customer Control of Activation/Deactivation" and "Call Forwarding - Busy Line or Don't Answer - Customer Control of Forward-To Number" for the services with customer control.)

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS24

2. Multiline customers can have CFDA on each line if desired.

3. Calls may be forwarded to any telephone number served by the same central office that serves the base station except DID numbers in the 1A ESS. Forwarding to DID numbers in the 1A ESS will be available in generic 1AE10.09\*. (\* References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.)
4. Subscribers may have CFDA with Call Forwarding Busy Line (CFBL), Call Forwarding Variable (CFV), and Call Waiting (CW). If a station has CFV and CFBL or CFDA active, then CFV will override the CFBL and/or CFDA features. If a station has CW and CFDA, CFDA will take precedence over the CW feature if the station is idle. However, if the station is busy, CW will take precedence and does not allow the CFDA feature to take effect if the waiting call is unanswered.
5. References:
  - SR-504 SPCS Capabilities and Features (A Module of LSSGR, FR-64), Issue 1, March 1996 (formerly TR-TSY-000504).
  - GR-586 LSSGR: Call Forwarding Subfeatures, FSD 01-02-1450 (A Module of LSSGR, FR-64), Issue 2, April 2002 (replaces TR-TSY-000586 Issue 1 & GR-586 Issue 1).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

## Call Forwarding - Don't Answer Interswitch (1051)

Call Forwarding Don't Answer (CFDA) is a central office software capability that allows a client to have an incoming call redirected to another Directory Number (DN) if the number dialed (the client's number) is not answered after a user-specified number of rings (or time interval). The service is activated by a service order. The called number and the redirected number (forwarded-to number) are coded in the central office memory and can only be changed through a service order. The customer may specify the number of rings (or time interval) at the time of the service order. The customer has the option of answering the call prior to its being forwarded, as long as the call is answered within the ringing cycle (time interval) selected. The called number and the redirected number (forwarded-to number) may be in the same or a different central office switch. The service is deactivated, the forwarded-to number changed, or the number of rings (time interval) is changed only by a service order.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding - Don't Answer Interswitch	AM - Alternate Answering	CNS
	BA - Fixed CF, CFBL/DA	CNS
	BA - Fixed Call Forwarding Don't Answer	CNS
	BA - Fixed Call Forwarding	CNS
	BA - Call Forwarding Busy Line/Don't Answer	CNS
	BS - Call Forwarding Don't Answer	CNS
	NX - CFBL, CFDA, CFBL/DA	CNS
	PB - Call Forwarding Don't Answer Interswitch	CNS
	SWB - Call Forwarding Don't Answer	CNS
	Qwest - Call Forwarding Don't Answer (Expanded)	CNS
	Qwest - Call Forwarding Busy Line/Don't Answer (Expanded)	CNS

### FEATURE OPERATION:

This feature is activated/deactivated by a service order. The "forward-to" number and the number of rings (time interval) is also selected and preprogrammed at the time of the service order. (Refer to the capabilities called "Call Forwarding - Busy Line or Don't Answer - Customer Control of Activation/Deactivation" and "Call Forwarding - Busy Line or Don't Answer - Customer Control of Forward-To Number" for the services with customer control.)

### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10.09*	5E2(2)	BCS24

\* References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

2. Multiline customers can have CFDA on each line if desired.
3. Calls may be forwarded to any telephone number, including DID numbers, served by the same or a different central office.

4. The caller may hear multiple call progress tones if the remote DN is busy.
5. Subscribers may have CFDA with Call Forwarding Busy Line (CFBL), Call Forwarding Variable (CFV), and Call Waiting (CW). If a station has CFV and CFBL or CFDA active, then CFV will override the CFBL and/or CFDA features. If a station has CW and CFDA, CFDA will take precedence over the CW feature if the station is idle. However, if the station is busy, CW will take precedence and does not allow the CFDA feature to take effect if the waiting call is unanswered.
6. References:
  - SR-504 SPCS Capabilities and Features (A Module of LSSGR, FR-64), Issue 1, March 1996 (formerly TR-TSY-000504).
  - GR-586 LSSGR: Call Forwarding Subfeatures, FSD 01-02-1450 (A Module of LSSGR, FR-64), Issue 2, April 2002 (replaces TR-TSY-000586 Issue 1 & GR-586 Issue 1).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Call Forwarding - Multiple Simultaneous Calls Interswitch (1052)

This feature provides the capability to specify the number of simultaneous incoming calls to forward from the same number to a hunt group or equivalent arrangement such as DID when the forwarding number and the hunt group (or equivalent) are served by a different central office switch.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding - Multiple Simultaneous Calls Interswitch	AM - Busy Line Transfer of Alternate Answer	CNS
	BA - Multipath Call Forwarding	CNS
	BS - Call Forwarding Variable Multiple Simultaneous Calls	CNS
	BS - CFBL/DA Multiple Simultaneous Calls	CNS
	NX - Call Forwarding Variable	CNS
	PB - Call Forwarding Variable	CNS
	SWB - Simultaneous Call Forwarding	CNS
	Qwest - Call Forwarding Variable	CNS

#### FEATURE OPERATION:

The maximum number of multiple simultaneous call forwarding is Telephone Company defined on a per line basis, and on the basis of the type of call forwarding, at the time of service order entry.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	5ESS	DMS-100
Earliest Generic Release	5E2(2)	BCS28

2. This capability is available for the Call Forwarding Variable (CFV), Call Forwarding Busy Line (CFBL) and Call Forwarding Don't Answer (CFDA) features.
3. In the 5ESS switch the number of simultaneous calls allowed can range in size from one to ninety-nine. In the DMS-100 the size can range from 1 to 1024 via the Residential Enhanced Services.
4. In the DMS-100 switches, there may be some limitations on providing this for CFBL or CFDA depending on the current Generic program of the serving central office.
5. Reference for Call Forwarding Variable:
  - GR-580 LSSGR: Call Forwarding Variable, FSD 01-02-1401 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-TSY-000580 Issue 1 – no technical changes).
  - GR-586 LSSGR: Call Forwarding Subfeatures, FSD 01-02-1450 (A Module of FR-64) Issue 2, April 2002 (replaces TR-TSY-000586 Issue 1 & GR-586 Issue 1).

**Call Forwarding - Variable (1053)**

This capability provides the ESP's client with the ability to forward all calls to a second directory number for handling. As part of the activation of the feature, an associated call is placed to the ESP's forward-to number.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding - Variable	AM - Call Forwarding Variable	CNS
	BA - Call Forwarding	CNS
	BS - Call Forwarding Variable	CNS
	NX - Call Forwarding	CNS
	PB - Call Forwarding Variable	CNS
	SWB - Call Forwarding	CNS
	Qwest - Call Forwarding Variable	CNS

**FEATURE OPERATION:**

To activate call forwarding variable with the ESP's number as the forward-to number, the ESP's client dials the call forwarding variable activation code. A recall dial tone (stutter dial tone) is provided, and then the ESP's client dials the ESP's number. When the ESP answers the call, activation is complete. (If the ESP does not answer, the customer may repeat the process within a specified amount of time, e.g., one minute, and the feature will be activated.) Depending on the type of central office switch serving the ESP's client, while call forwarding variable is active, the ESP's client's line will receive a reminder ring whenever a call is forwarded.

To deactivate the feature, the ESP's client dials the call forwarding variable deactivation code.

When call forwarding variable is active, the ESP's client's ability to originate calls will be unaffected.

**TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:**

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS23

2. Call Forwarding Variable will override Call Forwarding Don't Answer and Call Forwarding Busy Line if all three features are active at the same time.
3. Calls may be forwarded to any telephone number including DID numbers served by the same or a different central office.

#### 4. References:

- GR-580 LSSGR: Call Forwarding Variable, FSD 01-02-1401 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-TSY-000580 Issue 1 – no technical changes).
- GR-586 LSSGR: Call Forwarding Subfeatures, FSD 01-02-1450 (A Module of LSSGR, FR-64), Issue 2, April 2002 (replaces TR-TSY-000586 Issue 1 & GR-586 Issue 1).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Call Forwarding - Variable - Activation Without Courtesy Call (1054)

This capability provides the ESP's client with the ability to activate the call forwarding variable (forward all calls) feature without completing a call to the ESP's forward-to number.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding - Variable - Activation Without Courtesy Call	AM - Call Forwarding Variable	CNS
	BA - Call Forwarding-Variable-Activation Without Courtesy Call	CNS
	BA - Call Forwarding Variable-Reminder Ring Option Inhibited	BNS
	BS - Remote Access - Call Forwarding Variable	CNS
	NX - CallAbility <sup>SM</sup> Feature Access (or Ultraforward)	CNS
	PB - Call Forwarding Variable	CNS
	Qwest - Call Forwarding Variable Without Call Completion	CNS

#### FEATURE OPERATION:

To activate call forwarding variable with the ESP's number as the forward-to number, the ESP's client either dials the call forwarding variable activation code of the form \*XX or an access number.

1. Dialing an activation code (i.e., Ameritech, Bell Atlantic, BellSouth, Pacific Bell and Qwest). A recall dial tone (stutter dial tone) is provided, and then the ESP's client inputs the ESP's number by dialing it. If the activation can be accomplished for the designated forward-to address, then the switch responds with confirmation tone.
2. Dialing an Access Number (i.e., NYNEX). The customer dials an access number (e.g., an 800 number or a regular NPA-NXX-XXXX number) from any station. An announcement is returned asking for the customer directory number and a security code. If the dialed directory number and security code match and the customer subscribes to the service a prompt to select the feature (e.g., CFV) and the specific action (i.e., activation) is returned. After making the change the customer can wait for a confirmation or use, at any time, the verify capability to determine the feature status and forward to number.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	5ESS
Earliest Generic Release	5E2(2)*

\* Requires Business and Residence Custom Service (BRCS).

2. When call forwarding variable is active, the ESP's client's ability to originate calls will be unaffected.

<sup>SM</sup> CallAbility is a registered service mark of NYNEX. CallAbility will be offered from selected digital switches.

### 3. References:

- GR-586 LSSGR: Call Forwarding Subfeatures, FSD 01-02-1450 (A Module of LSSGR, FR-64), Issue 2, April 2002 (replaces TR-TSY-000586 Issue 1 & GR-586 Issue 1)
- GR-580 LSSGR: Call Forwarding Variable FSD 01-02-1401 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-TSY-000580 Issue 1 – no technical changes).

### Call Forwarding - Variable - Remote Activation/Control (1055)

This capability gives the ESP's client the ability to activate or deactivate the call forwarding variable (forward all calls) feature from remote locations other than their base station. The signaling used to activate or deactivate the call forwarding feature from the remote location must be from a Dual Tone Multi-Frequency (DTMF) set.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding - Variable - Remote Activation/Control	AM - Call Forwarding - Variable - Remote Activation/Control	CNS
	BA - Ultra Forward	CNS
	BS - Remote Activation of Call Forwarding	CNS
	NX - CallAbility <sup>SM</sup> Feature Access (or Ultraforward)	CNS
	PB - Call Forwarding-Variable-Remote Activation/Control	CNS
	SWB - Remote Activation of Call Forwarding	CNS
	Qwest - Remote Access Forwarding	CNS

### FEATURE OPERATION:

The ESP's client has two options for changing the forward-to number from a remote station:

1. The remote activation of call forwarding variable feature provides a dedicated directory number that can be used for remote activation (i.e., Ameritech, Bell Atlantic, BellSouth, Pacific Bell, Southwestern Bell). A caller may place a call to this remote activation directory number from any station. Calls to this number are answered with a tone or announcement. The caller then dials, on a DTMF station from his/her remote location, his/her home (base station) directory number and a security code. If the dialed directory number and security code match and that customer subscribes to remote activation, confirmation tone followed by dial tone is returned. The customer then proceeds through the call forwarding activation/deactivation procedure as if at home (at the base station).
2. Dialing an Access Number (i.e., NYNEX, Qwest). The customer dials an access number (e.g., an 800 number or a regular NPA-NXX-XXXX number) from any station. An announcement is returned asking for the customer directory number and a security code. If the dialed directory number and security code match and the customer subscribes to remote activation, a prompt to select the feature (e.g., CFV) and the specific action (e.g., activation or deactivation) is returned. After entering their selection, the customer can wait for a confirmation or use, at any time, the verify capability to determine the feature status and the forward to number.

<sup>SM</sup> CallAbility is a registered service mark of NYNEX. CallAbility will be offered from selected digital switches.  
 UPDATED 1/31/05 – PAGE REVISED 2/15/05

**TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:**

1. This feature is available in the following central office switches:

Switch Type	1A ESS*	5ESS*	DMS-100*
Earliest Generic Release	1AE10	5E5	BCS28

Note: \* This service may be provided via a switching feature in the switch or via an adjunct processor.

2. Reference:

- SR-504 SPCS Capabilities and Features (A Module of LSSGR, FR-64), Issue 1, March 1996 (formerly TR-NWT-000504)

### Call Forwarding With Variable Rings (1102)

In the event that the called telephone number is not answered within a designated parameter, normally three to four rings, the Call Forwarding Don't Answer feature automatically forwards incoming calls to a predetermined, dialable telephone number served by the same central office switch, or provides interswitch forwarding to a predetermined, dialable telephone number. This feature provides the ability to change the operative number of rings prior to call forwarding.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding With Variable Rings	AM - Customer Changeable Number of Rings	CNS
	BA - Call Forwarding With Variable Rings	CNS
	NX - CallAbility <sup>SM</sup> Feature Access (or Ultraforward)	CNS

#### FEATURE OPERATION:

This feature is modified on a line basis by a service order. The number of rings (time interval) is selected at the time of the service origination or at any time the customer requests a change.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE11.03	5E6	BCS 29

2. The minimum and maximum number of rings (time interval) is limited on a per switch basis. The normal time range is 0 to 60 seconds.
3. Reference:
  - GR-1520 Ring Control, FSD 01-02-2200, Issue 2, October 1994 (component of FR-64).

<sup>SM</sup> CallAbility is a registered service mark of NYNEX. CallAbility will be offered from selected digital switches.  
 UPDATED 1/31/05 – PAGE REVISED 2/15/05

**Call Waiting - Cancel (1056)**

Cancel Call Waiting allows a subscriber with the Call Waiting feature to inhibit reception of the Call Waiting Tone for the duration of a single call. This prevents interruption of data traffic or interruption during an important telephone call.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Waiting - Cancel	AM - Call Waiting	CNS
	BA - Tone Block	CNS
	BA - Call Waiting	CNS
	BS - Call Waiting	CNS
	NX - Cancel Call Waiting	CNS
	PB - Call Waiting	CNS
	SWB - Cancel Call Waiting	CNS
	Qwest - Call Waiting	CNS

**FEATURE OPERATION:**

1. When a subscriber with the Call Waiting Feature wishes to cancel the Call Waiting feature during the call, they must depress the receiver button, listen for dial tone, and dial Star (\*) plus 70 for touchtone (DTMF) phones or dial 1170 for rotary dial (DP) phones (Cancel Call Waiting Code) for a POTS line or a Business Group line. After dialing the code, the subscriber listens for confirmation tone and is then automatically reconnected to the call in progress. The Call Waiting feature has then been deactivated and no interruptions are allowed during the call.
2. When a subscriber with the Call Waiting Feature wishes to cancel the Call Waiting Feature prior to making a call, they must lift the receiver, listen for dial tone, and dial Star (\*) plus 70 for touchtone (DTMF) phones or dial 1170 for rotary (DP) phones (Cancel Call Waiting Code) for a POTS line or a Business Group line. After dialing the code, the subscriber listens for confirmation tone followed by dial tone. The Call Waiting Feature has then been deactivated and no interruptions are allowed during the call.
3. Call Waiting will be re-established when the call is terminated.

**TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:**

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS24

2. Call Forwarding Variable is compatible with Call Waiting and Cancel Call Waiting service.
3. Call Hold and Call Waiting with the Cancel option can be assigned to the same line.

4. Call Pickup and Call Waiting with the Cancel option can be assigned to the same line.
5. Speed Calling and Call Waiting with the Cancel option can be assigned to the same line.
6. Call Waiting with the Cancel option may be assigned to either or both parties on a Two-Party Line.
7. Cancel Call Waiting may not be provided on the following lines:
  - Coin Lines
  - Denied Originating Lines
  - Four and Eight Party Lines
  - PBX Lines
  - Hotel/Motel Calls Routed to TSPS
8. References:
  - GR-572 LSSGR: Cancel Call Waiting, FSD 01-02-1204 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-TSY-000572 Issue 1 & Revision 1 – no technical changes).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Called Directory Number Delivery via DID (1057)

This service allows the central office switch to deliver all or part of the destination address to the ESP at the time the call is established. Usually, the destination address delivered is the same as the number originally dialed. When number translations have occurred, e.g., 800 calls, the DID number delivered is not the called number.

Generic Name of ONA Service	Product Name	BSE or CNS
Called Directory Number Delivery via DID	AM - Direct Inward Dialing Trunk Termination	BSE
	BA - Direct Inward Dialing Service	BSE
	BS - Direct Inward Dialing	BSE
	NX - DID	BSE or CNS
	PB - Direct Inward Dial Service	BSE
	SWB - Direct Inward Dialing	BSE
	Qwest - Called Directory Number Delivery (DID)	BSE

#### FEATURE OPERATION:

1. Customers order this service from the telephone company. A client calling a customer is generally unaware that the customer has *Direct Inward Dialing (DID) service*. The client is not required to perform any additional actions to have the call delivered via a DID trunk group.
2. In a PBX type application, the service allows a client to reach a specific PBX station without the assistance of an attendant or other intermediary.
3. The number of digits forwarded by the central office switch is determined at the time the service is ordered. The customer must also arrange for a block of telephone numbers to be associated with the DID trunks.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. A customer may elect to receive Dial Pulse or Dual Tone Multifrequency (DTMF) signaling when using analog facilities. Some companies may offer Multifrequency (MF) outpulsing/signaling to the ESP community. If both the central office switch and the customer's equipment are digital, the customer may be able to order DID trunks with digital connectivity.
3. This service is an incoming service (to the customer's CPE) and is typically a "trunk side" service.

4. References:

- GR-524 LSSGR: Attendant and Customer Switching System Features and Customer Interfaces, FSD 04-01-0000 through 04-05-0000 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-TSY-000524 Issue 2 & Revision 1 – no technical changes).

This service, if offered as a BSE, may be associated with the Circuit Switched Line or Trunk basic serving arrangement, as stated in the individual ONA plans.

### Called Directory Number Delivery via 900NXX (1059)

This capability will provide the ESP with the directory number that terminated the call via a circuit switched trunk access arrangement. The method used is 900NXX dialing and Feature Group D (FG D) signaling protocol. The called directory number information (900NXXXXXX) is included within the FG D signaling protocol. The assignment of a 900NXX number to each ESP provides the ESP the capability to assign up to 9999 line numbers. With this capability, the FG D signaling protocol would deliver the specific dialed line number (900NXXXXXX) to the ESP.

Generic Name of ONA Service	Product Name	BSE or CNS
Called Directory Number Delivery via 900NXX	AM - Called Directory Number Delivery	BSE
	BA - 900 Access Service	BSE
	NX - 900 Access Service	BSE
	SWB - Circuit Switched - Trunk Side Alternative D Basic Serving Arrangement (BSA-D)	BSA *

#### FEATURE OPERATION:

This feature is activated/deactivated by an Access Service Order.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

2. The service is LATA wide and can be accessed either at the tandem or at the end office. Both access arrangements must be properly equipped with Feature Group D protocol trunks to the 900NXX serving carrier.
3. Calls that originate from non-FG D protocol offices will be handed off to the ESP at the access tandem using the FG D protocol.
4. References:
  - Feature Group D protocol is described in GR-690 Exchange Access Interconnection FSD 20-24-0000 (A Module of LSSGR, FR-64), Issue 2, September 1995, Revision 1 - November 1996.
  - GR-334 Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 1, June 1994.

This service is associated with the Circuit Switched Trunk basic serving arrangement.

\* For Southwestern Bell Telephone Company, this is an inherent feature of Circuit Switched - Trunk Side Alternative D Basic Serving Arrangement (BSA-D) service.

### Calling Billing Number Delivery - FG B Protocol (1060)

This arrangement allows the ESP to receive the billing number (ANI - 7 digit) of the party who originated the call to the ESP with the signaling information that is transmitted to the ESP during call setup. This signaling information will be transmitted using a Feature Group B protocol over a direct circuit switched trunk side connection.

Generic Name of ONA Service	Product Name	BSE or CNS
Calling Billing Number Delivery - FG B Protocol	BA - Automatic Number Identification (ANI)	BSE
	BS - Called/Calling Number Information - ANI Via FG B/TSBSA Technical Option 1 *	BSE
	NX - Automatic Number Identification	BSE
	Qwest - Automatic Number Identification	BSE

#### FEATURE OPERATION:

1. An ESP's client will dial (1)+950+0XXX or (1)+950+1XXX to reach the ESP. The XXX is the ESP's Carrier Identification Code (CIC).
2. ESP equipment may need to prompt the end user (e.g., via second dial tone) for additional information in order for the ESP to process the call.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS19

2. ESPs that purchase trunk side access service utilizing FG B protocol will be assigned a Carrier Identification Code (CIC) and must establish a Point of Presence (POP) in each LATA served. The CIC code will be the same for both FG B protocol and FG D protocol. However, in the future, CIC codes for trunk side access services utilizing FG B protocol and FG D protocol may be assigned independently.
3. ESPs must order direct trunks between each FG B protocol end office switch they wish to serve and their POP. The ANI optional feature must be ordered on all trunks. (Calling Billing Number Delivery - FG B Protocol cannot be provided using tandem arrangements, as the tandems utilizing FG B protocol do not have the ability to pass ANI.)
4. The ANI data forwarded to the ESP consists of the seven (7) digit billing number of the station originating the call and one ANI information digit.

\* BellSouth will only offer this service on an interLATA basis.

5. Destination code information, such as the called number, may be transmitted to the ESP from rotary stations provided the ESP orders the Rotary Dial Station Signaling option. This feature is available only from suitably equipped end offices.
6. Calls may be forwarded to ESPs using call forwarding services.
7. This service may be available in other switches equipped for Equal Access service.
8. References:
  - GR-698 LSSGR: Feature Group B FSD 20-24-0300 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-TSY-000698 Issue 1 & Revision 1 – no technical changes).
  - TR-NPL-000175 Compatibility Information for Feature Group B Switched Access Service, Issue 1, July 1985.
  - GR-334 Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 1, June 1994.

This service, if offered as a BSE, is associated with the Circuit Switched Trunk basic serving arrangement.

### Calling Billing Number Delivery - FG D Protocol (1061)

This arrangement allows the ESP to receive the billing number (ANI - 10 digit) of the party who originated the call to the ESP with the signaling information that is transmitted to the ESP during call setup. This signaling information will be transmitted using a Feature Group D protocol over a circuit switched trunk side connection.

Generic Name of ONA Service	Product Name	BSE or CNS
Calling Billing Number Delivery - FG D Protocol	AM - Calling Billing Number Delivery (i.e., ANI)	BSE
	BA - Automatic Number Identification (ANI)	BSE
	BS - ANI	BSE
	NX - Automatic Number Identification	BSE
	PB - Automatic Number Identification	BSE
	SWB - Automatic Number Identification	BSE
	Qwest - Automatic Number Identification	BSE

#### FEATURE OPERATION:

1. An ESP's client that is presubscribed to that ESP will dial (1) + 7/10 digits to reach the ESP. If the ESP's client chooses another carrier as his/her presubscribed carrier, the ESP's client would dial 10XXX (and/or 101XXXX) + (1) + 7/10 digits or 10XXX (and/or 101XXXX)+# to reach the ESP. The XXX (and/or XXXX) would be the ESP's Carrier Identification Code (CIC).

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. ESPs that purchase trunk side access service utilizing FG D protocol will be assigned a Carrier Identification Code (CIC) and must establish a Point of Presence (POP) in each LATA served.
2. ESPs may order (1) direct trunks between each equal access switch and the ESP's POP, or (2) trunks between FG D protocol equal access tandems and the ESP's POP, or (3) a combination of direct and tandem trunks. The trunks must be ordered with the ANI feature where ANI is an optional feature, in order for the ESP to receive the calling billing number.
3. Calls may be forwarded to the ESP using call forwarding services.
4. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS19

5. The service may be available in other switches equipped for Equal Access service.

6. This service may be available with CCS7 protocol.

7. References:

- GR-690 Exchange Access Interconnection FSD 20-24-0000 (A Module of LSSGR, FR-64), Issue 2, September 1995, Rev 1 - November 1996.
- TR-NPL-000258 Compatibility Information for Feature Group D Switched Access Service, Issue 1, October 1985.
- GR-334 Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 1, June 1994.

8. References for CCS7:

- GR-905 Common Channel Signaling Network Interface Specification (CCSNIS) Supporting Network Interconnection, Message Transfer Part (MTP), and ISDN User Part (ISDNUP), Issue 7 – December 2003 (replaces GR-905, Issue 6).
- GR-394 Switching System Generic Requirements for Interexchange Carrier Interconnection (ICI) Using the Integrated Services Digital Network User Part (ISDNUP), (A Module of LSSGR, FR-64), Issue 7 – December 2003 (replaces Issue 6).

This service, if offered as a BSE, is associated with the Circuit Switched Trunk basic serving arrangement.

### Calling Directory Number Delivery - via ICLID (1064)

Calling Directory Number Delivery via Calling Number Delivery (CND) (CLASS<sup>SM</sup>) allows the subscriber to receive the telephone number of the caller prior to answering the call.

When Calling Number Delivery (CND) is assigned to the subscriber's line, the directory number of the calling party, the time of the call and the date are sent to, and displayed on, the called party's Customer Premises Equipment (CPE) during the first long silent interval of the ringing cycle (between the first and second rings). If the calling party is outside the area in which the service works, the called party's CPE will receive an "O" which in most cases is displayed as "Out of Area" (actual display is the function of the CPE used).

Generic Name of ONA Service	Product Name	BSE or CNS
Calling Directory Number Delivery- via ICLID	AM - Caller ID	CNS
	AM - Caller ID With Call Waiting	CNS
	BA - Caller ID	BSE
	BS - Caller ID	CNS
	NX - Caller ID Number Only	CNS
	PB - Caller ID	BSE
	SWB - Caller ID	CNS
	Qwest - Caller Identification - Number	BSE

#### FEATURE OPERATION:

The customer must contact the telephone company to have the Calling Directory Number Delivery service activated. Once the translation changes have been made to the customer's line and the customer has installed the appropriate CPE, the calling number, date and time of the call is automatically transmitted to the customer's CPE. If the service is offered on a usage-sensitive basis, the customer has the option of turning the display device on and off by using the service access codes \*65 or 1165 for activation and \*85 or 1185 for deactivation. If the service is offered on a flat-rate basis, the display device cannot be turned on and off using the access codes.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10*	5E5	BCS28

NOTE: \* Available on intraoffice basis with generic 1AE9.

<sup>SM</sup> CLASS is a service mark of Telcordia Technologies, Inc. (formerly Bellcore)

2. The serving central office switch must be equipped with the appropriate CLASS<sup>SM</sup> Calling Number Delivery software and hardware. In order for this service to work on an interoffice basis, both the originating and terminating switches must be equipped with the CLASS<sup>SM</sup> and the Common Channel Signaling (CCS) SS7 software and hardware and the interoffice trunks must be converted to SS7.
3. This service is a "line" service and therefore cannot be assigned to subscribers with trunk terminations (i.e., PBX with DID). This service is also unavailable to multiparty lines, coin terminating and 1A ESS remote switching system (RSS) lines. This service requires on-hook transmission, therefore there may be instances (MFT, Channel Banks) where this service may not work. An exception is Ameritech's offering of "Caller ID With Call Waiting."
4. The subscriber must have a station set or a display device adjunct to the station set capable of receiving and displaying the calling directory number. The subscriber is responsible for the purchase and installation of this display device.
5. If the subscriber answers the telephone during the first ringing interval, the calling directory number will not be displayed at the CPE.
6. References:
  - GR-31 LSSGR: CLASS<sup>SM</sup> Feature: Calling Number Delivery, FSD 01-02-1051 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-NWT-000031 Issue 4 – no technical changes).
  - GR-30 LSSGR Voiceband Data Transmission Interface Section 6.6 (A Module of LSSGR, FR-64), Issue 2, December 1998 (replaces TR-NWT-000030, Issue 2).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Carrier Selection On Reverse Charge (1065)

800 Service is a telecommunications service in which any charges for the call are paid by the called party rather than the calling party. Dial access for the service is in the form of 1-800-NXX-XXXX. [Note: 888, 877, 866 and 855 are now equivalent to 800.]

The 800 Service subscriber purchases service from particular areas and incurs all the costs associated with processing calls for the calling parties. The unique reverse billing feature provides the calling party with "free" calls, while allowing the 800 Service customer, the called party, to encourage calls from parties of choice.

Generic Name of ONA Service	Product Name	BSE or CNS
Carrier Selection On Reverse Charge	AM - 800 Dialing Alternative	BSA *
	BA - Toll Free Database Access Service	BSE
	BA - 800 Toll Free Service	BSE
	BS - 800 Service	BSA
	NX - 800	BSE
	PB - 800 Access Service	BSA **
	Qwest - 800 Service	BSA *

### FEATURE OPERATION:

BOC 800 Service provides for the assignment of a single ten digit 800 Number (i.e., 800+XXX+XXXX) to the customer which can be used on a statewide basis for intraLATA calling. The service can be selected for an area consisting of less than an entire state by specifying a desired area of service.

The basic BOC 800 Service to an individual customer consists of the following capabilities:

1. The assignment of a single 800 number, which allows but does not require the subscriber to use one 800 number nationwide.
2. A termination that connects a location specified by the customer to the BOC's switched facilities.
3. Access to a single exchange or interexchange carrier for intraLATA transport.
4. Carrier selection.
5. Customer defined area of service.
6. The offering of national directory assistance listings to be passed to the national directory assistance provider.

\* For Ameritech and Qwest, this is a Circuit Switched Trunk Type BSA alternative.

\*\* For Pacific Bell, this is a Circuit Switched Line Type BSA alternative.

**TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:****1. References:**

- SR-2275 Telcordia Notes on the Networks, Issue 4, October 2000 (replaces SR-TSV-002275, Issue 3)
- GR-508 LSSGR: Automatic Message Accounting (AMA) Section 8, (A module of LSSGR FR-64) Issue 4, September 2003, (replaces TR-NWT-000508, Issue 3 & GR-508, Issue 3).
- GR-533 LSSGR: Database Services - Service Switching Points, Toll Free Service (FSD 31-01-0000), (A Module of LSSGR, FR-64), Issue 2, June 2001 (replaces TR-NWT-000533 Issue 3).
- Qwest document 77318 Compatibility Information for 800 Service Switched Access, May 1986.

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Coin Phone With Post Dialing Tone Capability (1062)

This capability provides for the coin phone key pad to remain enabled throughout a call. An ESP's client can then transmit information to the ESP utilizing DTMF signaling. Some non-LEC coin stations are not connected to Central Office lines with a coin class of service and so are not treated as "coin" telephones from a network standpoint.

Generic Name of ONA Service	Product Name	BSE or CNS
Coin Phone With Post Dialing Tone Capability	BA - Public Telephone Service	CNS *
	BA - Public Communication Service	CNS
	BA - Public Telephone Lines (PTL)	CNS
	BA - Pay Telephone Line	CNS
	BS - Post Dial DTMF Signaling From Coin Phone	BSA *
	NX - Post Dialing DTMF Signaling From Pay Station	CNS *
	SWB - Post Dialing Capability (Public Telephone)	CNS
	Qwest - Semipublic and Shared Coin Lines	BSA *

\* This network capability is an inherent function of LEC coin telephone service.

#### FEATURE OPERATION:

(This discussion applies to Dial Tone First Coin Stations.)

1. A coin station user goes off-hook and dials a local 7 digit number. At some time prior to the dialing of the last digit, the user deposits enough coins to cover the Initial Period charge. At this time, the coin phone key pad is powered by the loop current flow.
2. After receipt of the last digit, (assuming the call is not "911", "0", 1+, etc.), the loop current flow is interrupted so that the Central Office can test for the Initial Period deposit. The key pad is disabled at this time.
3. After it is determined that the initial deposit is present, and after the call is set up, loop current is reapplied to the circuit, enabling the keypad again. The keypad remains enabled throughout the remainder of the call.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2	BCS19

2. References:

- GR-181 Dual-Tone Multifrequency Receiver Generic Requirements for End-To-End Signaling Over Tandem-Switched Voice Links, Issue 1, July 2003 (replaces TR-TSY-000181, Issue 1 – no technical changes).
- TR-TSY-000450 Generic Requirements for Public Telephone Dual Tone Multifrequency Dial (DTMF), Issue 1, June 1989.
- GR-528 Public Telecommunications Service FSD 10-01-0000, Issue 1, December 1994 (replaces TR-TSY-000528, Issue 2).

## Customer Originated Trace (1066)

Customer Originated Trace (CLASS<sup>SM</sup>) capability allows a customer to have the last incoming number automatically traced. The results of the trace are not provided directly to the customer; they are output to an authorized agency. This capability requires that both the originating and terminating central offices be equipped with Common Channel Signaling (CCS) SS7 and be interconnected by SS7.

Generic Name of ONA Service	Product Name	BSE or CNS
Customer Originated Trace	AM - Call Trace	CNS
	BA - Call Trace	CNS
	BS - Call Tracing	CNS
	NX - Call Trace	CNS
	PB - Call Trace	CNS
	SWB - Call Trace <sup>SM</sup>	CNS
	Qwest - Call Trace	CNS

### FEATURE OPERATION:

Depending on the Local Exchange Company's implementation of this service, the customer either contacts the telephone company to request the service, which requires a service order, or the service is automatically available on an office basis to everyone. In either scenario, once the appropriate translations are done to the line(s), the customer can initiate a trace of the last incoming call (after hanging up) by going off-hook and dialing \*57 (1157 for rotary dial). The customer then receives one of the following type announcements depending on how the service is implemented:

- One-Level Announcement

If the calling number is valid, an announcement is given informing the customer that the trace was successful and instructs the customer what to do next. If the calling number is invalid, an announcement is given indicating why the trace cannot be done and dial tone is returned to the customer.

- Two-Level Announcements

The customer receives an announcement explaining that they have accessed the Customer Originated Trace service. Then, if the calling number is valid, the customer is instructed to dial "1" if they wish to activate the service and trace the call or to hang up to abort. If the customer dials "1", an announcement is given informing the customer that the trace was successful and instructs the customer what to do next. If the calling number is invalid, an announcement is given indicating why the trace cannot be performed and dial tone is returned to the customer.

The results of the trace are not given to the customer. They are automatically transmitted to an agency (determined by the telephone company), where the information is stored and available for further action.

<sup>SM</sup> CLASS is a service mark of Telcordia Technologies, Inc. (formerly Bellcore)

<sup>SM</sup> Call Trace is a service mark of Southwestern Bell Telephone Company.

# TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10*	5E5	BCS28

Note: \* Available on an intraoffice basis with 1AE9.

2. The serving central office switch must be equipped with the appropriate CLASS<sup>SM</sup> Customer Originated Trace software and hardware. In order for this service to work on an interoffice basis, both the originating and terminating switches must be equipped with the CLASS<sup>SM</sup> and the Common Channel Signaling (CCS) SS7 software and hardware and the interoffice trunks must be converted to SS7. This service is only offered on an intraLATA basis at this time.
3. This is a "line" service and therefore cannot be assigned to subscribers with trunk terminations (i.e., PBX with DID). This service is also unavailable to multiparty lines and 1A ESS remote switching system (RSS) lines. In addition, this service is unavailable to customers that have denied originating and denied terminating treatment.
4. The information delivered to the authorized agency includes: the called telephone number, the calling telephone number, the date, and the time of the call.
5. If the customer has Call Waiting and if the Call Waiting is activated during a call, the call waited number is the number that will be traced if Customer Originated Trace is activated.
6. References:
  - GR-216 LSSGR: CLASS<sup>SM</sup> Feature: Customer Originated Trace, FSD 01-02-1052 (A Module of LSSGR, FR-64), Issue 2, April 2002 (replaces TR-TSY-000216 Issue 2 & Revision 1 & Bulletin 1 & GR-216 Issue 1).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Cut Off On Disconnect (1095)

This capability provides a disconnect signal to the terminating party on a call, to indicate when the originating party has hung up. The benefit of this feature is that CPE equipment, such as answering machines, can detect the disconnect, and will not record messages consisting of "Dial Tone."

Generic Name of ONA Service	Product Name	BSE or CNS
Cut Off On Disconnect	BA - Business Individual Line	BSA *
	BS - Voice Grade Line - Circuit Switched	BSA *
	NX - Circuit Switched Line	BSA *

#### FEATURE OPERATION:

1. A call is placed to a line that has the "Cutoff On Disconnect" feature. After a predetermined number of rings, during which the called party does not answer, the called party's answering machine is connected to the call to record a message.
2. The calling party, wishing to speak with a person, decides not to leave a message, and hangs up. The terminating office sees an off-hook condition generated by the answering machine, and begins calling party disconnect timing.
3. After expiration of the timing interval, if the called party (answering machine) is still off-hook, and the line **does not** have the "Cutoff On Disconnect" feature, Dial Tone is applied to the line, which the answering machine records until the Central Office times out and begins Permanent Signal Treatment. However, if the line is equipped with the "Cutoff On Disconnect" feature, the Central Office supplies a 500 ms open to the line before applying Dial Tone. The answering machine can then recognize that the calling party has disconnected, and can drop the call before it starts to record Dial Tone.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	DMS-100
Earliest Generic Release	BCS25

2. The DMS-100 requires NTX901AA, F2653 - COD Option On An Office Basis and BCS25. The feature is assignable on both a line option and an office-wide basis.

References: not available.

\* This service is inherent in the Circuit Switched Line basic serving arrangement in certain Central Offices.

**DID Trunk Queuing (1067)**

DID Trunk Queuing will permit calls directed to an ESP's All Trunks Busy DID Trunk Group to be held for delivery when a DID trunk becomes idle. This would allow the ESP to answer calls from clients that would otherwise have received a busy signal.

Generic Name of ONA Service	Product Name	BSE or CNS
DID Trunk Queuing	BA - DID Trunk Queuing	BSE
	PB - DID Trunk Queuing	BSE
	Qwest - DID Trunk Queuing and Basic Announcement	BSE

**FEATURE OPERATION:**

DID Trunk Queuing allows ESPs to receive and hold calls directed to their busy DID trunk group. This service will place these calls in a queue, to be held until a trunk between the central office and the ESP is available. When a trunk becomes available, a call will be released from the queue and connected to the idle trunk. Calls held in the queue will hear ringing unless the ESP has ordered that a delay announcement be played to the caller.

**TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:**

1. This feature is available in the following central office switches:

Switch Type	1A ESS
Earliest Generic Release	1AE8A

2. Calls placed in the queue are delivered on a "first in-first out" basis.
3. The number of calls to be held in queue at any one time is established by the ESP at the time the service is ordered.
4. A maximum of four delay announcements is possible.
5. Each delay announcement may vary in length from three to 24 seconds.
6. References:
  - GR-569 LSSGR: Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-TSY-000569 Issue 1 – no technical changes).

This service, if offered as a BSE, may be associated with the Circuit Switched Line or Trunk basic serving arrangement, as stated in the individual ONA plans.

**Distinctive Ringing (1068)**

Distinctive Ringing (CLASS<sup>SM</sup>) alerts a customer via a special ringing pattern when receiving a call from a pre-specified list of directory numbers. If the customer is also a subscriber to Call Waiting service, and is off-hook on a call, a special Call Waiting tone will be sent to the customer if the calling party's number is on the pre-specified list.

Generic Name of ONA Service	Product Name	BSE or CNS
Distinctive Ringing	BA - Priority Call	CNS
	BS - Call Selector	CNS
	PB - Priority Ringing	CNS
	SWB - Priority Call <sup>SM</sup>	CNS
	Qwest - Priority Call	CNS

**FEATURE OPERATION:**

The customer must contact the telephone company to initiate Distinctive Ringing service. A service order is required. The customer initiates control of the Distinctive Ringing screening list contents as well as activation and deactivation of the service by dialing access codes as described below. Once the appropriate translations have been made to the customer's line the customer may activate, deactivate and/or use the service as follows:

1. 1A ESS: To activate the Distinctive Ringing service, the customer must go off-hook and dial \*61 (1161 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The service is now active.
- The number of entries on the list.
- The instructions for creating/adding numbers to the list; removing subscriber's entries from the list; reviewing the list.

To deactivate the service, the customer must go off-hook and dial \*81 (1181 for rotary dial). The customer will then receive an announcement providing the following information:

- The name of the service.
- The service is now off.
- The number of entries on the list.

<sup>SM</sup> CLASS is a service mark of Telcordia Technologies, Inc. (formerly Bellcore)

<sup>SM</sup> Priority Call is a service mark of Southwestern Bell Telephone Company.

- The instructions for removing any subscriber list entry; removing all subscriber entered numbers.
2. 5ESS and DMS-100: To activate or deactivate the Distinctive Ringing service, the customer must go off-hook and dial either \*61 or \*81 (1161 or 1181 for rotary dial). Once either access code has been successfully entered, the customer should receive an announcement providing the following information:
    - The name of the service.
    - The status of the service (active or inactive).
    - The number of entries on the list.
    - The instructions for creating/adding, removing, reviewing the list, changing of service status (active to inactive, inactive to active).

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE10*	5E6	BCS31**

NOTE: \* Available on an intraoffice basis with 1AE9.

\*\* References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

2. The maximum directory number list size is pre-determined by the telephone company on a company basis and can range from 2 to 31.
3. The serving central office switch must be equipped with the appropriate CLASS<sup>SM</sup> Distinctive Ringing/Call Waiting software and hardware. In order for this service to work on an interoffice basis, both the originating and terminating switches must be equipped with the CLASS and Common Channel Signaling (CCS) SS7 software and hardware and the interoffice trunks must be converted to SS7.
4. This service is a "line" service and therefore cannot be assigned to subscribers with trunk terminations (i.e., PBX with DID). This service is also unavailable to customers with the following types of lines: multiparty, hotel/ motel, coin and coinless public, 1A ESS remote switching system lines (RSS) and Centrex attendant with console. In addition, because of the special ringing, this service may not work where channel banks (FX service), MFTs or bridge lifters are used (depending on circuit design).
5. The ringing tone and the call waiting tone that a customer hears have a short-long-short pattern. Some telephone companies use this pattern for more than one service.
6. There are certain digital loop carrier plug-ins that will not transmit the required distinctive ringing.

## 7. References:

- GR-219 LSSGR: CLASS<sup>SM</sup> Feature: Distinctive Ringing/Call Waiting, FSD 01-01-1110 (A Module of LSSGR, FR-64), Issue 2, April 2002 (replaces TR-TSY-000219 Issue 2 & Revision 1 & Bulletin 2 & GR-219 Issue 1).
- GR-220 LSSGR: CLASS<sup>SM</sup> Feature: Screening List Editing, FSD 30-28-0000 (A Module of LSSGR, FR-64), Issue 2, April 2002 (replaces TR-NWT-000220 Issue 3 & GR-220 Issue 1).

### Distinctive Ringing - Terminating Screening (1069)

Distinctive Ringing - Terminating Screening (non-CLASS<sup>SM</sup>) provides individual ringing signals for customers who have multiple directory numbers (DNs) assigned to a single line appearance of a circuit switch. One DN is designated as the "master" DN and receives regular ringing. Additional DNs associated with the single line appearance receive distinctive ringing signals.

Generic Name of ONA Service	Product Name	BSE or CNS
Distinctive Ringing - Terminating Screening	AM - Call Identification/Multi-Ring Svc.	CNS
	BA - Distinctive Ring	CNS
	BS - RingMaster <sup>®</sup>	CNS
	NX - Distinctive Ring	CNS
	SWB - Personalized Ring <sup>SM</sup>	CNS
	Qwest - Custom Ringing	CNS

#### FEATURE OPERATION:

1. A customer may request from the telephone company that up to four Directory Numbers (a primary and three secondary) be assigned to their line. A service order is required.
2. Once provisioned, a unique ringing pattern is applied to the customer's line for each of the assigned directory numbers dialed by the calling party. The calling party always hears a normal audible ringing pattern.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE9	5E4	BCS25

2. This service is only available on single party lines with superimposed ringing.

<sup>SM</sup> CLASS is a service mark of Telcordia Technologies, Inc. (formerly Bellcore)

<sup>®</sup> RingMaster is a registered trademark of BellSouth.

<sup>SM</sup> Personalized Ring is a service mark of Southwestern Bell Telephone Company.

3. The primary number (PDN) receives normal ringing. Ringing patterns for the secondary numbers (SDNs) is as follows:

SDN1 - 2 long rings

SDN2 - 2 short rings, 1 long ring

SDN3 - 1 short ring, 1 long ring, 1 short ring

4. Customers with Call Waiting will receive a unique Call Waiting tone for each directory number dialed.
5. Customers with Call Forwarding - Variable may have the option at subscription of being able to forward only the primary number or forwarding all directory numbers upon service activation.
6. If other Call Forwarding features are assigned to the primary number, they are also provided for the secondary numbers.
7. Originating Custom Calling features such as Three Way Calling or Speed Calling can be assigned to the primary number only.
8. References:
- GR-520 LSSGR: Features Common To Residence and Business Customers I, FSD 00-00-0000 to FSD 01-01-1000 (A Module of LSSGR, FR-64), Issue 1, June 2000 [See FSD 01-01-1000] (replaces TR-TSY-000520 Issue 2 – no technical changes)
  - BellSouth Reference TR-73534 Description of the Network Interface to RingMaster® Service, Issue B, February 1991.

### Faster Signaling On DID (1094)

Faster Signaling On DID provides the customer with improved call completion efficiencies for calls that terminate to DID trunks. Two methods are currently available to provide the ESP with faster signaling, Multi-Frequency (MF) and Dual Tone Multi-Frequency (DTMF) address signaling. Each of these methods provides improvements relative to Dial Pulse (DP) signaling in terms of the holding time required for digit outpulsing to the ESP's PBX during call routing. This equates to reduced holding times for DID trunks and is perceived by the ESP to reduce the number of DID trunks required to handle its traffic.

Generic Name of ONA Service	Product Name	BSE or CNS
Faster Signaling On DID	BA - Faster Signaling On DID	* BSE
	BS - Faster Signaling On DID	BSE or CNS
	NX - Faster Signaling On DID	BSE or CNS
	Qwest - Called Directory Number Delivery (DID)	** BSA

#### FEATURE OPERATION:

A call is placed to a number terminating on a DID trunk. The Central Office determines through translations that this DID trunk group requires either MF or DTMF signaling. The appropriate equipment (and software) is utilized to outpulse the digits to the DID system in the proper format.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS19

2. The digital switches (5ESS and DMS-100) provide this feature as an inherent part of the switch, utilizing the appropriate time slots to furnish the MF or DTMF signal to the DID PBX. The 1A ESS requires hardware (MF or DTMF transmitters) and software (9SHLTO if DTMF) to provide this feature.

3. References:

- SR-2275 Telcordia Notes On The Networks, Issue 4, October 2000 (replaces SR-TSV-002275, Issue 3).

This service, if offered as a BSE, is associated with the Circuit Switched Line or Trunk basic serving arrangement, as stated in the individual ONA plans.

\* Standard Option

\*\* For Qwest this capability is a DID service alternative.

### Flexible ANI Information Digits (1058)

The flexible ANI information digit assignment feature permits the association of supplementary information digits with specific calling party classes of service (e.g., coin phone, hotel/motel, and prison service). The purpose of flexible ANI information digits is to provide information about the calling party's directory number which may be useful to ESPs for billing and/or screening of calls. Flexible ANI information digit assignments are made by Lockheed-Martin as part of its North American Number Plan administration responsibilities.

Generic Name of ONA Service	Product Name	BSE or CNS
Flexible ANI Information Digits	AM - Flexible ANI	BSE
	BA - Flexible ANI	BSE
	BS - ANI	BSE
	NX - Flexible ANI	BSE
	SWB - Flex ANI	BSE
	Qwest - Flexible ANI	BSE

#### FEATURE OPERATION:

Flexible ANI applies to interoffice calls that send two digit ANI information via Equal Access Multi-Frequency Signaling, Common Channel Signaling or Modified Operator Services Signaling. When Flexible ANI digits apply to a class of service, they will be outpulsed instead of hard-coded class of service ANI pairs. Being able to associate flexible ANI pairs to originating line class of service translations provides the capability for the terminating switch to identify more classes of lines. In addition, associating flexible ANI pairs with the routing translations for ESP services provides an efficient method for ESPs to identify when customers are attempting to use those services. The ANI pairs are transmitted as part of the ANI signaling sequence and are used by the receiving switch to identify the type of originating line or the type of call being made.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE11.03	5E6	BCS27

2. The Circuit Switched Trunk type BSA with FG D protocol in-band signaling interface will support this BSE. It can be supported via either a direct or tandem trunk arrangement.
3. Flexible ANI can only be assigned to the Circuit Switched Trunk type BSA that has the Calling Billing Number Delivery (ANI) BSE assigned as an option.
4. References:
  - LSSGR FR-64 (formerly FR-NWT-000064), Flexible ANI Information Digit Assignment FSD 20-20-0100, Issue 1, September 1989, Module TR-TSY-000685.

This service, if offered as a BSE, is associated with the Circuit Switched Trunk type BSA.

**Hot Line (1070)**

This automatic dialing feature provides the customer with the ability to automatically be connected with another line on the circuit switched network. When the customer's station goes off-hook, a switched connection is set up without any further user action.

Generic Name of ONA Service	Product Name	BSE or CNS
Hot Line	BA - Hot Line	CNS
	BS - Hot Line	CNS
	NX - Hot Line	BSE or CNS
	PB - Direct Connection	CNS
	SWB - Hot Line	CNS
	Qwest - Hot Line	CNS

**FEATURE OPERATION:**

1. A subscriber to this service, upon going off-hook to initiate a call, will be automatically connected to a single predetermined number. No digits dialed by the subscriber will be accepted by the Central Office switch.
2. The service, including the predetermined number, is activated via a service order with the telephone company. Changes in the predetermined number can only be made via an additional service order.

**TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:**

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS23

2. The predetermined number can be any valid seven to fifteen digit number.
3. Incoming calls are unaffected by this service.
4. A subscriber to Hot Line cannot have other originating features on the same line (i.e., Speed Calling, Warm Line, Call Forwarding, Three-Way Calling, Call Transfer).
5. References:
  - GR-562 LSSGR: Manual Line Features, FSD 01-02-0301 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-TSY-000562 Issue 1 – no technical changes).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Message Waiting Indicator (MWI) - Ability To Receive Audible Message Waiting (1073)

With this capability, the ESP's client can receive the audible message waiting signal, i.e., stutter dial tone (or recall dial tone), when activated by the ESP. This capability is a client option. The line should be programmed with this feature in order for the client to receive stutter dial tone (message waiting tone).

To activate or deactivate the stutter dial tone on the client's line with the ability to receive audible message waiting, the ESP uses an SMDI data link to the central office switch.

Generic Name of ONA Service	Product Name	BSE or CNS
Message Waiting Indicator (MWI) - Ability To Receive Audible Message Waiting	AM - Message Waiting Tone	CNS
	BA - Messaging Services Interface	CNS
	BS - Message Waiting Indication - Audible	CNS
	NX - SMDI	CNS
	PB - Message Waiting Indicator	CNS
	SWB - Customer Alerting Enablement	CNS
	Qwest - Message Waiting Indication - Audible	CNS
	Qwest - Message Waiting Indication - Aud/Vis(8037)	CNS

#### FEATURE OPERATION:

1. Once the MWI feature is assigned to the ESP's client's line, there is no required action by the client to activate/deactivate the feature.
2. Any ESP can turn off/on a client's Message Waiting Indicator providing they reside in the same Central Office as the client.
3. With appropriate line translations in Stored Program Control switches, an ESP can turn on or off a special recall dial tone (stutter dial tone) to notify their clients of an awaiting message. Whenever the client attempts to originate a call, the client receives stutter dial tone. This indicates to the client that a message(s) has been received by the ESP for the client. The client will receive stutter dialtone each time he attempts to originate a call until the ESP sends a message to the switch to remove the stutter dialtone (MWI).
4. An ESP's client can use call forwarding busy line (CFBL), call forwarding don't answer (CFDA), or call forwarding variable (CFV) to forward their calls to the ESP.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8A	5E4.2*	BCS29**

Note: \* In the 5ESS, this feature requires the non-standard pre-ISDN arrangement using the ISDN 1 Message AP/ACP or 3A translator with the 5E4.2 Generic.

Note: \*\* In the DMS-100, BCS29 supports this feature on Residential Enhanced Services (RES).

2. This feature can only be offered on an Intraoffice basis.

3. References:

- For MWI: GR-283, Simplified Message Desk Interface (SMDI) (A Module of LSSGR, FR-64), Issue 3, February 2002 (replaces TR-NWT-000283 Issue 2 & Supplement 1 & GR-283 Issue 2).
- Recall dial tone (stutter dial tone) described in GR-506 LSSGR: Signaling For Analog Interfaces, (A Module of LSSGR, FR-64), Issue 1, June 1996, Revision 1 - November 1996 (replaces TR-TSY-000506, Issue 3).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

### Message Waiting Indicator (MWI) - Ability to Receive Visual Message Waiting(1074)

With this capability, the ESP's client can receive a visual alerting signal from the ESP. This capability is a subscriber option. The visual MWI is a device with an illuminating lamp that is controlled by signals received via the client's line from the appropriately equipped central office switches.

Generic Name of ONA Service	Product Name	BSE or CNS
Message Waiting Indicator (MWI) - Ability To Receive Visual Message Waiting	BA - Messaging Services Interface	CNS
	BS - Station Message Waiting Lamp Indication	CNS
	PB - Electronic Business Set Message Waiting	CNS
	Qwest - Message Waiting Indication - Visual	CNS
	Qwest - Message Waiting Indication - Aud/Vis(8037)	CNS

#### FEATURE OPERATION:

MWI - Ability to Receive Visual Message Waiting is a central office software and hardware capability that allows a subscriber, with special CPE, to have a lamp or LCD flash at 60 IPM when there are messages waiting at their message bureau, and be turned off to indicate that there are no messages.

This feature is activated/deactivated by the ESP who uses an SMDI-type data link to the central office switch. A customer's lamp or LCD is activated on their CPE when an ESP sends a signal to the central office to apply 130 volts to the customer's lamp. The ESP (Voice Mail provider, other message provider, etc.) would send an additional signal after the messages have been retrieved by the clients to remove the 130 volts from their client's lamp.

#### TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE8	5E4.2*	BCS29
		* ISDN	

2. The lamp is off when the subscriber is off-hook or there are no messages queued and the subscriber is on-hook.
3. This capability requires a specialized line card.
4. References:
  - Qwest reference publication 77335 - "Message Waiting Indication - Visual," Issue A, September 1990.

## Multiline Hunt Group (1077)

Multiline Hunting provides a software-defined search for an idle terminal to which a call can be completed. When calls are placed to a Multiline Hunt Group, hunting begins with a member designated by the dialed directory number and hunts sequentially through the group until an idle member is found or the end of the designated list is encountered. If no idle member is found, busy tone is returned to the calling party. Several types of hunting arrangements are available: Regular Hunting, Circular Hunting, and Preferential Hunting.

Preferential hunting provides individual terminals in a hunt group a "preferential list" that consists of any terminals in the hunt group to be hunted in any sequence. If the telephone number of the called line is found busy, the preferential list is sequentially hunted for an idle line. If all the terminals in the preferential list are found busy, the last number of the preferential list is the start hunt telephone number for the regular or circular hunt group. The effect is to make a hunt group member the "pilot" of its own hunt group.

Generic Name of ONA Service	Product Name	BSE or CNS
Multiline Hunt Group	AM - Circular Multiline Hunt Group	BSE
	AM - Multiline Hunt Group Overflow	BSE
	AM - Preferential Hunting	BSE
	AM - Regular Multiline Hunt Group	BSE
	BA - Hunting Service Arrangements	BSE
	BA - Hunting Service Arrangements: Circular (3023)	BSE
	BA - Hunting Service Arrangements: Preferred (3024)	BSE
	BS - Multiline Hunt Groups	BSE or CNS
	NX - Hunt Groups	BSE
	PB - Hunt Group Arrangement	BSE
	SWB - Multiline Hunt Group	BSE
	Qwest - Hunting	BSE

### FEATURE OPERATION:

The Regular Line Hunting capability offers a hunting arrangement in which hunting begins with the terminal number associated with the called number and continues sequentially through the last terminal number in the Multiline Hunt Group where the hunting is stopped.

The Circular Line Hunting capability offers a hunting arrangement in which hunting begins with the terminal number associated with the called number and continues sequentially through the last terminal number in the Multiline Hunt Group where hunting resumes at terminal 1 and continues through the terminal preceding the start hunt terminal.

The preferential hunting arrangement allows a prehunt over a subset or preferential list of terminals before hunting through the hunt group. The hunt group can be either a circular or regular hunt group. All terminals in the group can have their own preferential list. When a call is to terminate to a group with preferential hunting, the address of the preferential list is obtained and conditional hunting is performed. The first terminal in the list is examined, and if idle, an attempt is made to terminate the call. If busy, the next terminal in the preferential list is examined and so on until an idle terminal is found. If an idle line is not found, then the last terminal in the list is used as the start hunt number into the regular or circular hunt group. A regular or circular hunting is performed, and if no idle terminal is found via a search through the entire group, the calling party receives busy tone.

## TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS*	DMS-100
Earliest Generic Release	1AE8A	5E2(2)	BCS17

Note: \* Regular and Circular Hunting only are available in the 5ESS switch.

2. These Hunting features are compatible with the majority of Distinctive Ringing, and Three-Way Calling features in the 1A ESS, 5ESS and the DMS-100 switches. The Call Forwarding features are compatible with the hunting techniques in the 1A ESS and 5ESS switches.
3. The Call Waiting feature is compatible with preferential hunting in both the 1A ESS and the DMS-100.
4. In the 1A ESS, the preferential list can have a maximum of 18 terminals assigned to be hunted before returning to the hunt group. In the DMS-100, the preferential list can have a maximum of 19 terminals assigned, including the pilot number, to be hunted before returning to the hunt group.
5. In the DMS-100, preferential hunting is compatible with the Distributed Hunt Number feature.
6. References:
  - GR-569 LSSGR: Multiline Hunt Service, FSD 01-02-0802 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-TSY-000569 Issue 1 – no technical changes).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.